MOBOTIX Product Announcement June 2013:

M15 AllroundDual Camera Platform

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Content

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![MOBOTIX logo] ... the HiRes Video Company

1. General Product Characteristics

The HiRes Dual Camera System For All Your Needs
The M15 AllroundDual camera is a well equipped, professional network camera that is top of the MOBOTIX product range, both in terms of functionality and technological capability. The integration of **one or two** easy-to-fix/easy-to-change image sensors and a range of other functions and technical innovations results in unlimited usage possibilities: For video security applications in commercial, private and public sector environments, as a surveillance or weather camera, a webcam, indoors or outdoors, day or night.

Modular System Setup
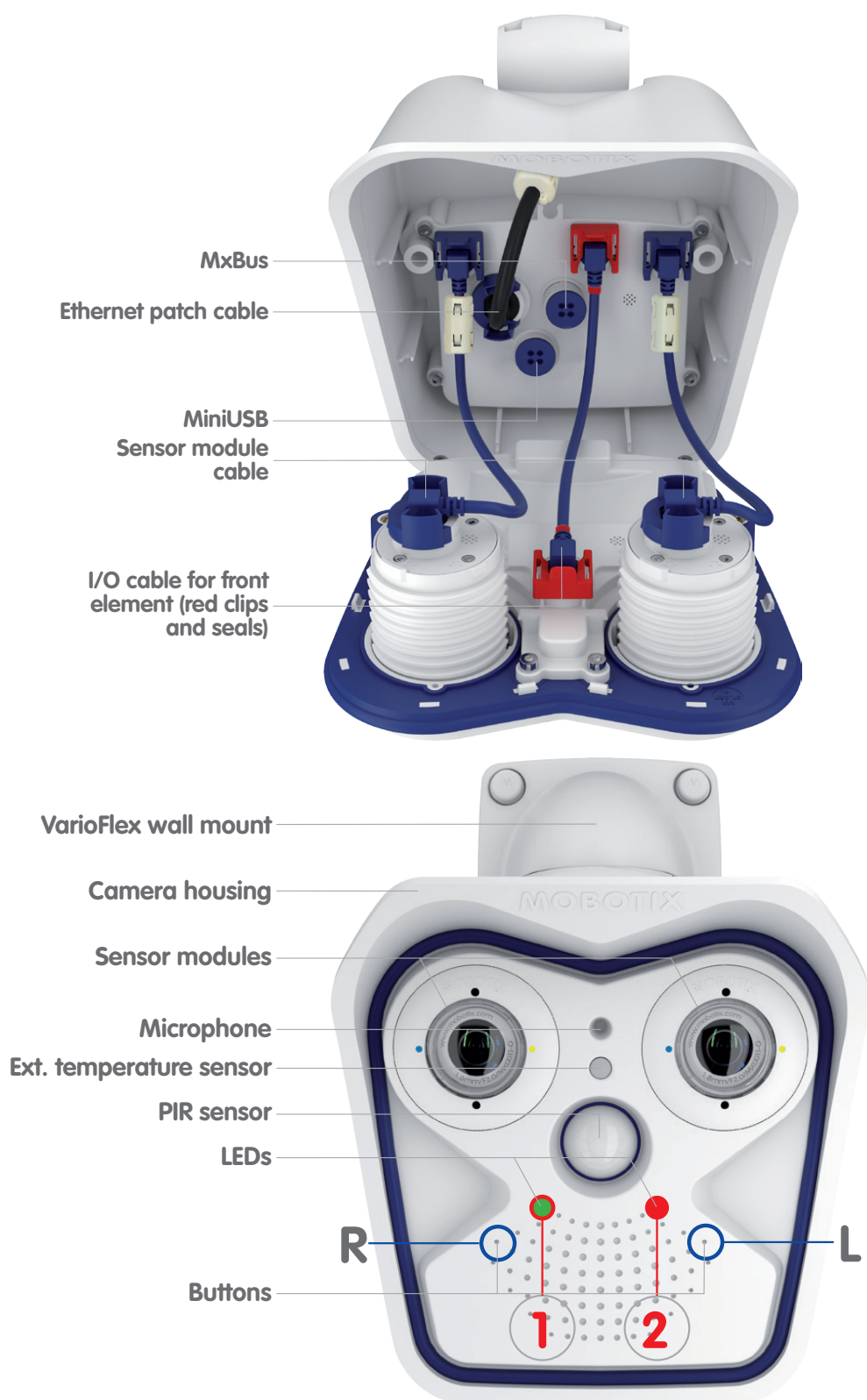The M15 camera platform consists of three main components:
1. **Housing** with integrated camera electronics, flash memory, external ports (Ethernet, MxBus, MiniUSB) and pre-installed VarioFlex mount for wall or ceiling mounting
2. **Front element** to hold one or two sensor modules, with microphone, speaker, passive infrared sensor (PIR), outside temperature sensor and status LEDs
3. One or two **sensor modules** with lens, image sensor, microphone and status LEDs

In order to provide **maximum flexibility** to the customers, the M15 camera platform is shipping **without** lenses/sensors and given focal distances. The **M15 sensor modules** coincide with the **S15D** sensor modules. In effect, there is no need for double stock-keeping for two different camera platforms. In order to guarantee the tightness of the system (IP66), the M15 housing has to be sealed with the sensor or dummy modules (one dummy module included with every M15).

The housing with VarioFlex mount, connection cable for sensor modules and network and the front element are included in standard delivery of the M15 Core basic module The **factory-adjusted sensor modules** may be ordered separately and combined freely as desired (for example, Day/ Night, telephoto/wide-angle). The system's modular design ensures a high level of flexibility and ease of repair

Wall mount
Wall installation
Central joint
Ceiling mount
Ceiling installation
360°
+20°
-60°
Weather housing

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(for example, replace one sensor module instead of the entire camera).

MxBus

Ethernet patch cable

MiniUSB
Sensor module
cable

I/O cable for front
element (red clips
and seals)

VarioFlex wall mount

Camera housing

Sensor modules

Microphone

Ext. temperature sensor

PIR sensor

LEDs

R   L

Buttons

1   2

LED 1: Power (on), Error (flashes)
LED 2: Recording (flashes)

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5-Megapixel Image Sensor Technology:
Higher Frame Rates, Better Light Sensitivity, Better Zoom Capability

By using 5 Megapixel sensors in the new M15, the users will be able to experience clear advantages. The most visible change is a clearly better light sensitivity in low light conditions or at night. The light sensitivity of the overall image quality is up to four times better, which enhances the overall image quality in for instance bad weather conditions and in the dark.

The maximum QXGA resolution delivers – when zooming – **over 2.5 times more details than full HD**. Another major advantage is that the new 5MP sensor technology in combination with preprocessing the image data directly in the camera delivers a video stream frame rate of u**p to 30 frames per second**. An increased zoom capability enhances the possibilities even further compared to the M12: The zoom option was increased in color by **27%** by using the new sensor technology, and by more than **200%** in black-and-white. This results in more detailed images and allows for the camera to be positioned further away from the monitored areas. This allows users to benefit from increased flexibility when it comes to planning and installation.

MxActivitySensor – Unique Motion Detection In The Camera

The MxActivitySensor is an activity-controlled, software-based image analysis function for detecting movement of people and objects in a monitored area (full image or section). Unlike existing video motion sensors, which detect all events in the defined motion windows, the MxActivitySensor is very easy to configure and delivers reliable results, even in applications with large amounts of external interference. For example, the camera now distinguishes between movements of vehicles, people or objects that trigger an alarm and movements that are not relevant for alarms, such as shadows, changes in illumination, trees swaying in the wind or rain directly at the lens.
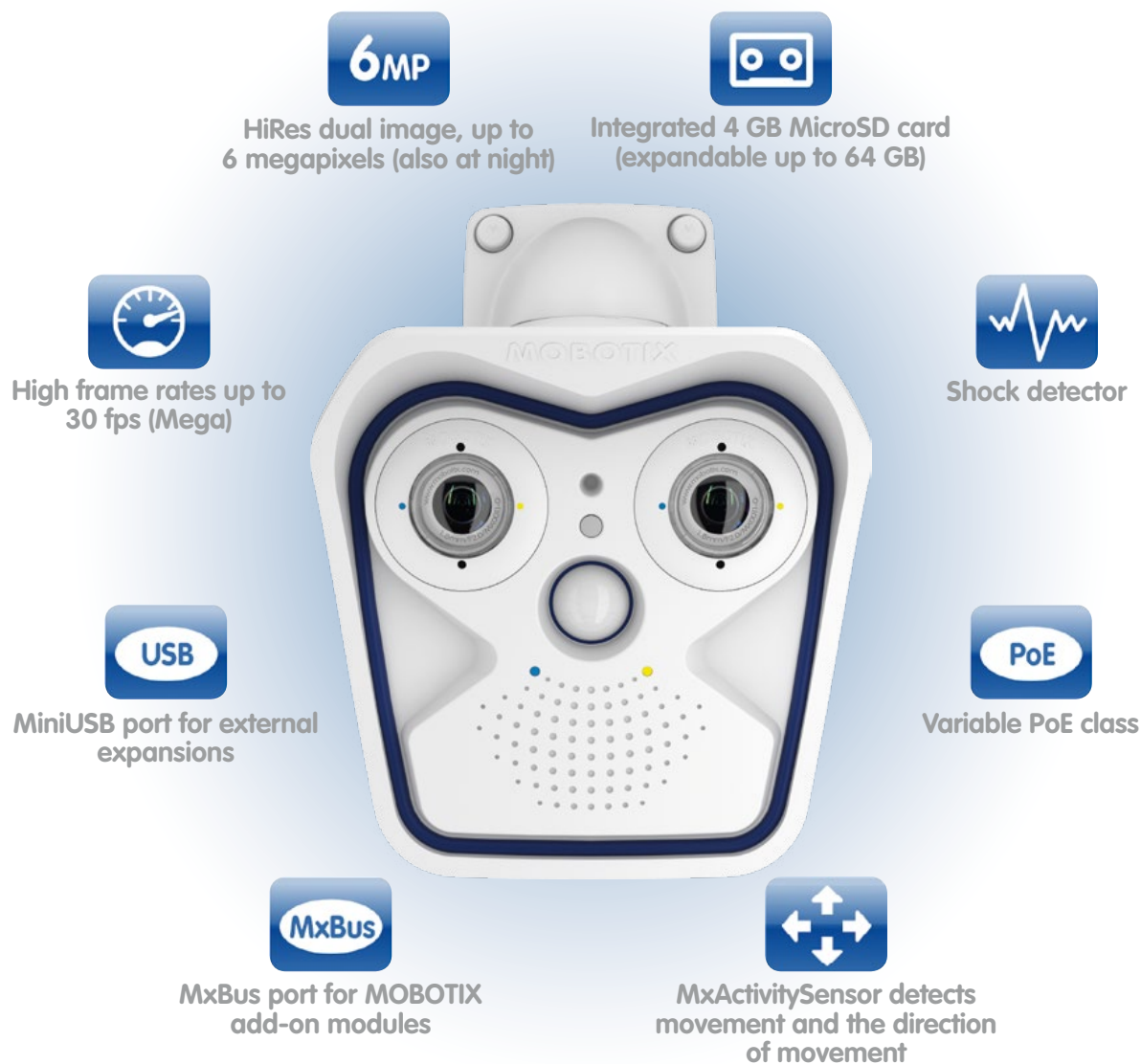
MxActivitySensor detects movement and the direction of movement

MxActivitySensor responds to purposeful, continuous movements of objects and people and indicates the direction of movement.

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6MP
HiRes dual image, up to
6 megapixels (also at night)

Integrated 4 GB MicroSD card
(expandable up to 64 GB)

High frame rates up to
30 fps (Mega)

Shock detector

USB
MiniUSB port for external
expansions

PoE
Variable PoE class

MxBus
MxBus port for MOBOTIX
add-on modules

MxActivitySensor detects
movement and the direction
of movement

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2. Lens Options

The dual camera M15 Core basic model is only available as an **SEC** version, which has one or two individually selectable and combinable sensor modules. The M15 features an internal long-term memory, a pre-formatted and pre-installed 4 GB MicroSD card (upgradeable up to 64 GB).

The sensor modules (maximum resolution 3.1 megapixel) can be mounted on the basic module in just a few easy steps with the provided **black module wrench**.

M15D Sensor Modules
The M15D camera platform can be combined with sensor modules with six different image angles, each available as a day or night version. Since MOBOTIX cameras are backlight-proof, none of the lenses requires a mechanical auto iris. This makes the cameras extremely robust and maintenance-free.
• L12 Fisheye with 180° image angle (horizontal)
• L25 Super Wide-Angle with 82° image angle (horizontal)
• L38 Wide-Angle with 54° image angle(horizontal)
• L51 Wide-Angle with 39° image angle (horizontal)
• L76 Telephoto with 27° image angle (horizontal)
• L160 Telephoto with 13° image angle (horizontal)
• L12 sensor modules (180° image angle) available in July 2013!

> • The S14 sensor modules cannot be used together with the M15 camera core!
> • Fully equipped M15 sets with pre-mounted sensor modules are not available!

Hiding The Protective Cover (Hemispheric Sensor Module)
In order to hide the protective cover, often all that is required is the "panorama correction" feature that is integrated into the camera software or MxEasy as standard. Using this feature, tilted vertical lines (if the camera is mounted at an angle) may be optically straightened to the image edges and the protective cover disappears from the image. If this measure does not work in a specific situation (downward camera tilt not possible), the protective cover can be removed from the image by zooming and, if necessary, by panning downward using the virtual functions. The displayed image section or the panorama, as the case may be, is reduced slightly but the image details are enlarged as a result of zooming.

Night sensor modules with long-pass filter (LPF)
All night sensor modules (N12 – N160, black/white) are optionally available with a special LPF optic (long pass filter) that, if combined with an infrared emitter, supplies optimal imaging conditions for automatic licence plate recognition independent of the lighting conditions. All LPF sensor modules (except L12) can additionally be equipped with the polarization filter.

Polarization Filter
When using the non-hemispheric sensor modules **L25 to L160**, you can replace the lens cover (made of glass) with a **polarization filter** (MOBOTIX accessory). **Example:** Recognition of people through the windshield of a car - the filter reduces the mirror reflection.

Lenses 5MP Sensors	L12	L25	L38	L51	L76	L160
Original image						
35 mm equivalent	12 mm	25 mm	38 mm	51 mm	76 mm	160 mm
Nominal focal length	1,8 mm	4 mm	6 mm	8 mm	12 mm	25 mm
Aperture	2,0	2,0	2,0	2,0	2,0	2,5
Horizontal image angle	180°	82°	55°	40°	27°	13°
Vertical image angle	160°	61°	41°	30°	20°	10°
Distance 1 m						
Image width	infinite	1,7	1,0	0,7	0,5	0,2
Image height	11	1,2	0,7	0,5	0,4	0,2
Distance 5 m						
Image width	infinite	8,7	5,2	3,6	2,4	1,1
Image height	55	5,9	3,7	2,7	1,8	0,9
Distance 10 m						
Image width	infinite	17,4	10,3	7,2	4,9	2,3
Image height	110	11,9	7,5	5,4	3,6	1,7
Distance 20 m						
Image width	infinite	34,7	20,6	14,5	9,7	4,6
Image height	220	23,7	14,9	10,8	7,2	3,4
Distance 50 m						
Image width	k. A.	86,8	51,5	36,2	24,3	11,4
Image height	k. A.	59,3	37,3	27,0	18,0	8,6

3. Camera Equipment & Functions: Overview

M15D: Lenses, Sensors	
Hemispheric 12 mm	L12
Super Wide-Angle 25 mm	L25
Wide-Angle 38 mm	L38
Wide-Angle 51 mm	L51
Tele 76 mm	L76
Tele 160 mm	L160
CSVario 24 – 54 mm	not available
Dummy module (replaces missing sensor modules)	in the M15 delivery (1x)
Image sensor with individual exposure zones	Color/BW (any combination)
BW sensor modules with integrated long pass filter (N12 LPF – N160 LPF)	X (optional)
Sensor sensitivity in lux at 1/60 s and 1 s	0.25 and 0.013 (Color) 0.05 and 0.0025 (B/W)

M15D: Hardware Features	
IP protection class (only when housing sealed with sensor or dummy modules)	IP66
Temporary internal DVR (capacity MB)	64
Long-term internal DVR (MicroSD, expendable up to 64 GB)	4 GB incl.
Microphone/speaker	X/X
Passive infrared sensor (PIR)	X
Outdoor temperature sensor	X
Shock detector	X
Power consumption in watts (typical)	< 5
Variable PoE class	2 – 3

M15D: Image Formats, Frame Rates, Image Storage	
Max. resolution (per sensor)	3MEGA (2048x1536)
Max. frame rate (MxPEG)	MEGA: 30 B/s 3MEGA: 20 B/s
Images with 4 GB DVR (MicroSD incl.)	250,000 CIF 125,000 VGA 40,000 MEGA 20,000 3MEGA

Security Vision Systems

M15D: General Features	
Digital zoom (continuous) with panning	X
Codecs: Motion JPEG/MxPEG/H.264 (only for SIP video)	X/X/X
Programmable exposure zones	X
Snapshot recording (pre-alarm/post-alarm images)	50
Terabyte ring buffer storage (internal/network)	X
Continuous recording with sound (0.2 – 30 fps)	X
Event recording with sound	X
Time and event control	X
Weekly schedules/holidays	X
Web functionality (ftp, email)	X
Playback, QuadView, MultiView and bidirectional audio via browser	X
Logo generator, animated	X
Flexible event logic	X
Master/Slave arming	X
Several scheduled privacy zones	X
Customized voice messages	X
VoIP telephony (audio/video, alert)	X
Remote alarm notification (network message)	X
Signal inputs/outputs, RS232	Via MX-232-IO-Box
Programming interface/HTTP API	X
Security features (HTTPS/SSL, IP-based access control, IEEE 802.1X network authentication)	X

M15D: Video Analysis	
Video motion detector	X
MxAnalytics	not available
MxActivitySensor	X

M15D: Video Management Software	
MxEasy, MxControlCenter	X
MOBOTIX App	X

4. New M15 Features Compared To The M12 (Highlights)

New	Comment
Modular camera platform	Modular complete system for flexible application possibilities: M15 Core: Camera housing with front element; 5 MP sensor modules may be ordered individually
Higher frame rates	Video stream frame rate of up to 30 frames per second
IP66	Dust-proof and resistant to water jets (M12: IP65); complete system is robust, low-maintenance and weatherproof from -30 to +60 °C
Sensor modules incl. lens and image sensor (5 megapixel, day/night)	factory-adjusted; up to two; simultaneous display and recording; installation and expansion by the user (no need to send it back to MOBOTIX)
Flash memory (internal DVR)	MicroSD card replaces SD card and R models of the M12
MiniUSB	For peripheral devices, adapter cable available from MOBOTIX
MxBus	Enables the two-wire connection of MOBOTIX interface boxes
Power supply	Via a blue NPA-PoE-Set, MX-NPA-Box or standard PoE switch, variable PoE (class 2 or 3)
USB connector	Can be used with MX-232-IO-Box via USB or MxBus (MOBOTIX accessories), Sub-D HD-15 (M12) discontinued
Shock detector	Reports acts of vandalism, etc. to the M15 camera housing
MxActivitySensor	Detects movements of people/objects and the directions of movement; only available with the M15-Sec (standard feature of the camera firmware)
Outside temperature sensor	Integrated into M15 Core basic module as standard
Mobile video remote station	M15 operation is integrated in the MOBOTIX App for iOS devices
Live zoom with 5 megapixel	Improved zoom compared to M12: +27 % with day sensor module; +200 % with night sensor module
Light sensitivity	4x better than the sensitivity of the M12 day sensors
Night sensor	Resolution now also up to QXGA (3.1 megapixel)
Hemispheric version	L12 day and night versions available in July 2013

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5. Schedule

Product Trainings
MxCampus trainings for the M15 will be available as of **July 2**, 2013.

Product Launch Schedule
M15 Core (camera housing without sensor modules): **July 2** 2013
L12 Sensor Modules (Hemispheric Day/Night): planned for **July** , 2013

Product Documentation Web (starting July 2, 2013)
M15 product informations:
www.mobotix.com > Products > M15

M15 manual:
www.mobotix.com > Support > Manuals

6. Order Information

Product Name	Order Number	EAN	Description	MSRP EURO	Available EMEA
M15D Core Sec	MX-M15D-Sec	4047438018258	camera module, Sec version (up to two sensor modules)	852	July 2, 2013

Product Name	Order Number	EAN	Description	MSRP EURO	Available EMEA
M15D Sensor Modules Color (Day)	MX-SM-D12-PW	4047438017732	color sensor module for M15/S15D, horizontal image angle 180°, white	248	July 2013
	MX-SM-D25-PW	4047438017749	color sensor module for M15/S15D, horizontal image angle 82°, white	198	July 2, 2013
	MX-SM-D38-PW	4047438017756	color sensor module for M15/S15D, horizontal image angle 55°, white	198	July 2, 2013
	MX-SM-D51-PW	4047438017763	color sensor module for M15/S15D, horizontal image angle 40°, white	198	July 2, 2013
	MX-SM-D76-PW	4047438017770	color sensor module for M15/S15D, horizontal image angle 27°, white	198	July 2, 2013
	MX-SM-D160-PW	4047438017787	color sensor module for M15/S15D, horizontal image angle 13°, white	198	July 2, 2013
M15D Sensor Modules B/W (Night)	MX-SM-N12-PW	4047438017794	b/w sensor module for M15/S15D, horizontal image angle 180°, white	248	July 2013
	MX-SM-N25-PW	4047438017800	b/w sensor module for M15/S15D, horizontal image angle 82°, white	198	July 2, 2013
	MX-SM-N38-PW	4047438017817	b/w sensor module for M15/S15D, horizontal image angle 55°, white	198	July 2, 2013
	MX-SM-N51-PW	4047438017824	b/w sensor module for M15/S15D, horizontal image angle 40°, white	198	July 2, 2013
	MX-SM-N76-PW	4047438017831	b/w sensor module for M15/S15D, horizontal image angle 27°, white	198	July 2, 2013
	MX-SM-N160-PW	4047438017848	b/w sensor module for M15/S15D, horizontal image angle 13°, white	198	July 2, 2013

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Product Name	Order Number	EAN	Description	MSRP EURO	Available EMEA
Polarization Filter	MX-SM-OPT-POL	4047438019781	Polarization Filter for S14/S15/M15 (not suitable for L11/L12 sensor modules)	128	July 2, 2013

Product Name	Order Number	EAN	Description	MSRP EURO	Available EMEA
LPF Sensor Modules	MX-SM-N12-LPF-PW	4047438019668	S15/M15 night sensor N12 LPF white	348	July 2013
	MX-SM-N25-LPF-PW	4047438019675	S15/M15 night sensor N25 LPF white	298	July 2, 2013
	MX-SM-N38-LPF-PW	4047438019682	S15/M15 night sensor N38 LPF white	298	July 2, 2013
	MX-SM-N51-LPF-PW	4047438019699	S15/M15 night sensor N51 LPF white	298	July 2, 2013
	MX-SM-N76-LPF-PW	4047438019705	S15/M15 night sensor N76 LPF white	298	July 2, 2013
	MX-SM-N160-LPF-PW	4047438019712	S15/M15 night sensor N160 LPF white	298	July 2, 2013